

Please add the following new claim to the application:

32 -33. The method according to claim 32, for the treatment of periodontosis.--

### REMARKS

In the Office Action dated October 23, 2002 claims 17-28 in the above-identified U.S. patent application were rejected. Reconsideration of the rejections is respectfully requested in view of the amendments submitted on March 23, 2003, the above amendments and the following remarks.


The above amendments to claim 21 were previously submitted on March 23, 2003 but the word "protein" was inadvertently left out of line 2 after "MP52" in the clean copy of the claim. The marked up copy submitted on March 23 was correct. In order to clarify this issue, the amendment is included in the present supplemental response.

Attached to this supplemental response is a clean copy of all currently pending claims as requested by the Examiner.

A signed declaration as discussed in the March 23, 2003 response will be filed shortly.

Applicants respectfully submit that all of claims 17-25, 28, 30 and 32-33 are enabled by the present specification and the knowledge in the art and are now in condition for allowance. If it is believed that the application is not in condition for allowance, it is respectfully requested that the undersigned attorney be contacted at the telephone number below to set up an interview to advance prosecution.

“ In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fee for such an extension together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 02-2135.

RESPECTFULLY SUBMITTED,					
NAME AND REG. NUMBER	Monica Chin Kitts, Registration No.: 36,105				
SIGNATURE				DATE	3/27/03
ADDRESS	Rothwell, Figg, Ernst & Manbeck Suite 800, 1425 K Street, N.W.				
CITY	Washington	STATE	D.C.	ZIP CODE	20005
COUNTRY	U.S.A.	TELEPHONE	202-783- 6040	FAX	202-783- 6031

Enclosures: Marked up copy of claims  
Clean copy of all pending claims

## Appendix 1

### **Marked up copy of claims to show amendments**

21. (Twice Amended) A process for the production of an implant material according to claim 28, the process comprising applying the MP52 protein or ~~DNA encoding such MP52 protein~~ in and/or on the calcium phosphate matrix as a solution in a solvent such that a homogeneous distribution of the MP52 protein or ~~DNA encoding such MP52 protein~~ in and/or on the calcium phosphate matrix is achieved.

## Appendix 2

### Clean copy of all pending claims

17. The implant material of claim 28, wherein the matrix material is composed of a tricalcium phosphate ceramic comprising crystallographically phase-pure  $\alpha$  or  $\beta$ -tricalcium phosphate ceramic with an interconnecting microporosity of 20-60% of its volume.
18. The implant material of claim 17, wherein the  $\alpha$ - or  $\beta$ -tricalcium phosphate ceramic has a primary particle size of 10-40  $\mu\text{m}$  and causes no giant cell or connective tissue infiltration into the implant material.
19. The implant material of claim 17, wherein it is present in the form of an injectable suspension.
20. The implant material of claim 17, wherein the calcium phosphate matrix degrades over time to release the MP52 protein or DNA encoding such MP52 protein in a controlled retarded manner.
21. A process for the production of an implant material according to claim 28, the process comprising applying the MP52 protein in and/or on the calcium phosphate matrix as a solution in a solvent such that a homogeneous distribution of the MP52 protein in and/or on the calcium phosphate matrix is achieved.
22. The process of claim 21, wherein the solvent is removed by sublimation.

23. The process of claim 21, wherein the MP52 protein is concentrated by in situ precipitation from the solvent in the calcium phosphate matrix by admixing a precipitating solvent.

24. A pharmaceutical composition comprising an implant material according to claim 28 and a pharmaceutically and physiologically acceptable material.

25. A method of treating a disease which affects cartilage, bone, or cartilage and bone and/or damage to cartilage, bone, or cartilage and bone in a patient in need thereof, the method comprising implanting an implant material according to claim 28, into the patient.

28. An implant material suitable for cartilage, bone, or cartilage and bone growth comprising a matrix material which is composed of a crystallographically phase-pure calcium phosphate and applied in and/or on said matrix a cartilage inducing, bone inducing, or cartilage and bone inducing MP52 protein, wherein the MP52 protein is selected from the group consisting of

(a) a protein comprising amino acid 1 to 501, 28 to 501, 361-400 to 501, 381 to 501, 382 to 501, 400 to 500 of SEQ ID NO. 1,

(b) a protein according to (a) which is a homodimer, and

(c) a protein according to (b) in combination with a dimer of another protein of the TGF- $\beta$  superfamily which shows cartilage or bone-inducing potential.

30. A method of inducing at least one of bone or cartilage growth in a patient in need

thereof, the method comprising implanting an implant material according to claim 28 into the patient.

32. A method for the treatment of a bone defect or bone fracture, for application in the jaw region or dental region or for immobilizing movable bone parts in a patient, comprising implanting an implant material according to claim 28 into the patient.

33. The method according to claim 32, for the treatment of periodontosis.